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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,044	07/08/2004	Klaus Tank	37887-400200	3146
27717	7590	08/30/2006		
SEYFARTH SHAW LLP 131 S. DEARBORN ST., SUITE2400 CHICAGO, IL 60603-5803				
			EXAMINER MARCHESCHI, MICHAEL A	
			ART UNIT 1755	PAPER NUMBER
DATE MAILED: 08/30/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

#4

Office Action Summary

Application No.

10/501,044

Applicant(s)

TANK, KLAUS

Examiner

Michael A. Marcheschi

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1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/8/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/8/04</u> . | 6) <input type="checkbox"/> Other: ____ |

The disclosure is objected to because of the following informalities:

The specification is objected to because the “brief description of the drawings” section must include a description of all the figures (i.e. Figure 1 shows; Figure 2 shows; Figure 3 shows; Figure 4 shows; Figure 5 shows; Figure 6 shows;). A consolidation of the figures, as defined in this section (Figures 1-6 show), is improper when the individual figures are separate to understanding the method.

Appropriate correction is required.

Claims 3, 4, 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is indefinite because it is defining that the core comprises three phases (hard particles, solvent/catalyst and organic binder) but claim 1 defines that the core is only made up of two phases. This claim is thus outside the scope of claim 1. It is suggested that the claim be rewritten in “further comprising” language (i.e. the core further comprises...).

Claim 4 is indefinite because claim 1 never defines that the coating into a coherent mass, thus the claim lacks antecedent basis. In addition, is this claim defining how the coating is bonded to the core? This claim is thus outside the scope of claim 1. It is suggested that the claim be rewritten in “further comprising” language (i.e. the coating further comprises...).

Claim 11 is indefinite because the examiner is unclear as to what is actually being claimed. The claim is not drafted in a clear and concise manner as to enable complete understanding of the subject matter sought.

Claim 12 is indefinite because it depends on an indefinite claim.

Claim 3 is objected to because of the following informalities:

The terms "appropriate" and "solvent/catalyst" should be separated by a space.

Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5-13 are rejected under 35 U.S.C. 102(a) as anticipated by Fang et al. (564).

Fang et al. teaches in section [0031]-[0036], [0047], [0059]-[0060] and examples 1-3, a method for producing a tool component comprising (1) providing a plurality of fibers, each fiber having a core (diamond, boron nitride or WC-Co core) and a shell (diamond, boron nitride or

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WC-Co shell), (2) producing bundles of the fibers, (3) extruding (4) severing (cutting) the bundles, (5) attaching the cut bundles, in the green state, to a substrate (cemented carbide (cermet) substrate as is conventionally used (see section [0003])) and (6) and consolidating (attaching to the substrate) the material by hot isostatic pressing (broadly reads on elevated temperature and pressure since the claims do not defined otherwise). A temporary organic binder (wax) is also used to manufacture the core. Section [0028] defines that the core/shell arrangement can be of two or more materials phases and that the phrases can be formed from different material or the same materials utilizing different sizes or proportions (this implies one or more layers). Figure 2 shows that the structure is a honeycomb shape.

The claimed invention is anticipated by the reference because the reference teaches a method which involves all of the claimed steps and utilizes the same components therein. With respect to the “cystallographically stable” limitation, it is the examiners position that the hot isostatic pressing, which broadly reads on elevated temperature and pressure since the claims do not defined otherwise, inherently results in this. In addition, the skilled practitioner would never operate in a region where the hard particles (diamond, etc.) are unstable.

Claim 4 is rejected under 35 U.S.C. 103(a) as obvious over Fang et al. (564).

One skilled in the art would have appreciated and therefore found it obvious to utilize a binder to temporarily bond the coating together. This concept being the same as that for which the reference utilizes an organic binder for the core mixture.

The following rejection is based on the assumption (arguendo by applicant) that Fang et al. does not teach step (5) of instant claims 1 and 13.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as obvious over Fang et al. (564) in view of Portwood et al. (008)

The characterization of Fang et al. is established above. This reference fails to teach how the composite is attached to the cemented carbide substrate. The utilization of a high temperature high pressure technique would have been appreciated and therefore obvious to the skilled artisan in view of the Portwood et al. teaching in column 16, lines 19-23 that composites (column 13, lines 66-column 14, line 14, which are the same as the composites disclosed by Fang et al. in terms of the structure) are known to be attached (bonded) to a cemented carbide substrate (column 14, lines 27-28) by a high temperature high pressure process. With respect to the "cystallographically stable" limitation, the use of a high temperature high pressure process results in this. With respect to claim 4, one skilled in the art would have appreciated and therefore found it obvious to utilize a binder to temporarily bond the coating together. This concept being the same as that for which Fang et al. utilizes an organic binder for the core mixture.

Claims 1-3, 5-7 and 10-12 are rejected under 35 U.S.C. 102(b) as anticipated by Portwood et al.

Portwood et al. teaches in column 11, line 17-column 14, line 28 and column 16, lines 19-23, a method for producing a tool component comprising (1) providing a plurality of fibers,

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each fiber having a core (hard particle mass of diamond, boron nitride) and a shell (WC-Co), (2) producing bundles of the fibers, (3) extruding (4) severing (cutting) the bundles, (5) attaching the cut bundles, in the green state, to a substrate (cemented carbide) and (6) and consolidating (attaching to the substrate) the material by high temperature high pressure process. A temporary organic binder is mixed with the hard particles (diamond, boron nitride) to manufacture the hard particle mass (i.e. as defined above the hard particle mass is the core). Figure 13A shows that the structure is a honeycomb shape. With respect to the "cystallographically stable" limitation, the use of a high temperature high pressure process results in this.

The claimed invention is anticipated by the reference because the reference teaches a method which involves all of the claimed steps and utilizes the same components therein.

Claim 4 is rejected under 35 U.S.C. 103(a) as obvious over Portwood et al. (008).

One skilled in the art would have appreciated and therefore found it obvious to utilize a binder to temporarily bond the coating together. This concept being the same as that for which the reference utilizes an organic binder for

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

The U.S. reference cited on the 1449 (6,063,502-Sue et al.) has been reviewed by the examiner and are considered to be art of interest since it is cumulative to or less than the art relied upon in the above rejections. The above reference is related to the 2002/0020564 (Fang et

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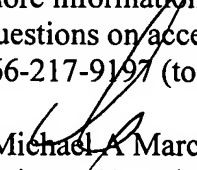
al.) used in the above rejection. Reference C1 cited on the IDS of 7/8/04 has not been considered because a copy of this document is not provided.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/06
MM


Michael A. Marcheschi
Primary Examiner
Art Unit 1755